## ABSTRACT OF THE DISCLOSURE

Decoding apparatus comprises EX-OR circuit exclusive ORing the Reed-Muller code and exclusive Ored value of mask symbol candidate pattern and the information data corresponding to the pattern, first decoder calculating checksum of the EX-OR circuit output and majority-judging the checksum to decode a part of the second portion of the information data, second decoder exclusive ORing the EX-OR circuit output and a product of the part of the second portion and the orthogonal codes and majority-judging the exclusive OR result to decode a remaining part of the second portion, Reed-Muller encoder encoding the information data, and minimum detector detecting the minimum of Euclidean distance between an output from the Reed-Muller encoder and the Reed-Muller code supplied to the arithmetic operation unit while a plurality of candidate patterns of the mask symbols are supplied to the arithmetic operation unit.

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